Application No.: 09/957,472

Docket No.: 204552021500

## **AMENDMENTS TO THE CLAIMS**

2

1-156. (Canceled)

157 (New). A semiconductor light-emitting device constituted by mounting a semiconductor

light-emitting element on a base substance, wherein

the semiconductor light-emitting element has outgoing light having an emission

wavelength of 390 to 420 nm; and

there is included a fluorescent substance that is excited by outgoing light from the

semiconductor light-emitting element and emits red light having an emission wavelength with its

main emission peak in a wavelength range of 600 to 670 nm, wherein

the fluorescent substance is composed of any one or more selected from a fluorescent

substance group consisting of:

M<sub>2</sub> O<sub>2</sub> S: Eu (M is any one or more elements selected from La, Gd and Y);

 $0.5 \text{ MgF}_2 \cdot 3.5 \text{MgO} \cdot \text{GeO}_2 : \text{Mn};$ 

 $Y_2 O_3 : Eu;$ 

 $Y(P, V) O_4$ : Eu; and

YVO<sub>4</sub>: Eu.

158 (New). A semiconductor light-emitting device constituted by mounting a semiconductor

light-emitting element on a base substance, wherein

the semiconductor light-emitting element has outgoing light having an emission

wavelength in a range of 390 to 420 nm; and

Application No.: 09/957,472 3 Docket No.: 204552021500

there is included a fluorescent substance that is excited by outgoing light from the semiconductor light-emitting element and emits green light having an emission wavelength with its main emission peak in a wavelength range of 500 to 540 nm, wherein

the fluorescent substance is composed of any one or more selected from a fluorescent substance group consisting of:

RMg<sub>2</sub> Al<sub>1 6</sub> O<sub>2 7</sub>: Eu, Mn (R is any one or both elements selected from Sr and Ba);

RMgAl<sub>10</sub> O<sub>17</sub>: Eu, Mn (R is any one or both elements selected from Sr and Ba);

ZnS: Cu;

SrAl<sub>2</sub> O<sub>4</sub>: Eu;

SrAl<sub>2</sub> O<sub>4</sub>: Eu, Dy;

ZnO: Zn;

 $Zn_2 Ge_2 O_4 : Mn;$ 

Zn<sub>2</sub> SiO<sub>4</sub>: Mn; and

Q<sub>3</sub> MgSi<sub>2</sub> O<sub>8</sub>: Eu, Mn (Q is any one or more elements selected from Sr, Ba and Ca).

159 (New). A semiconductor light-emitting device constituted by mounting a semiconductor light-emitting element on a base substance, wherein

the semiconductor light-emitting element has outgoing light having an emission wavelength in a range of 390 to 420 nm; and

Application No.: 09/957,472 4 Docket No.: 204552021500

there is included a fluorescent substance that is excited by outgoing light from the semiconductor light-emitting element and emits blue light having an emission wavelength with its main emission peak in a wavelength range of 410 to 480 nm, wherein

the fluorescent substance is composed of any one or more selected from a fluorescent substance group consisting of:

 $A_{1\ 0}$  (PO<sub>4</sub>)  $_6$  Cl $_2$ : Eu (A is any one or more elements selected from Sr, Ca, Ba, Mg and Ce);

XMg<sub>2</sub> Al<sub>1 6</sub> O<sub>2 7</sub>: Eu (X is any one or both elements selected from Sr and Ba);

XMgAl<sub>10</sub> O<sub>17</sub>: Eu (X is any one or both elements selected from Sr and Ba);

ZnS: Ag;

Sr<sub>10</sub> (PO<sub>4</sub>) 6 Cl<sub>2</sub>: Eu;

 $Ca_{1,0}(PO_4)_6F_2:Sb;$ 

Z<sub>3</sub> MgSi<sub>2</sub> O<sub>8</sub>: Eu (Z is any one or more elements selected from Sr, Ca and Ba);

SrMgSi<sub>2</sub> O<sub>8</sub>: Eu;

 $Sr_2 P_2 O_7$ : Eu; and

CaAl<sub>2</sub> O<sub>4</sub>: Eu, Nd.

160 (New). A semiconductor light-emitting device constituted by mounting a semiconductor light-emitting element on a base substance, wherein

the semiconductor light-emitting element has outgoing light having an emission wavelength in a range of 390 to 420 nm; and

Application No.: 09/957,472 5 Docket No.: 204552021500

there is included a fluorescent substance that is excited by outgoing light from the semiconductor light-emitting element and emits blue green light having an emission wavelength with its main emission peak in a wavelength range of 480 to 500 nm, wherein

the fluorescent substance is composed of any one or more selected from a fluorescent substance group consisting of:

Sr<sub>4</sub> Al<sub>1 4</sub> O<sub>2 5</sub>: Eu;

Sr<sub>4</sub> Al<sub>1 4</sub> O<sub>2 5</sub>: Eu, Dy;

 $L_{1\ 0}$  (PO<sub>4</sub> )  $_6$  Cl $_2$  : Eu (L is any one or more elements selected from Ba, Ca and Mg); and

Sr<sub>2</sub> Si<sub>3</sub> O<sub>8</sub> ·2SrCl<sub>2</sub> : Eu.

161 (New). A semiconductor light-emitting device constituted by mounting a semiconductor light-emitting element on a base substance, wherein

the semiconductor light-emitting element has outgoing light having an emission wavelength in a range of 390 to 420 nm; and

there is included a fluorescent substance that is excited by outgoing light from the semiconductor light-emitting element and emits orange light having an emission wavelength with its main emission peak in a wavelength range of 570 to 600 nm.

162 (New). The semiconductor light-emitting device according to Claim 161, wherein the fluorescent substance is composed of any one or more selected from a fluorescent substance group consisting of:

ZnS: Mn; and

ZnS: Cu, Mn, Co.

163 (New). The semiconductor light-emitting device according to Claim 157, wherein

a sealing resin for sealing at least a part of the base substance and the semiconductor light-emitting element is included; and

the sealing resin contains the fluorescent substance.

164 (New). The semiconductor light-emitting device according to Claim 158, wherein

a sealing resin for sealing at least a part of the base substance and the semiconductor light-emitting element is included; and

the sealing resin contains the fluorescent substance.

165 (New). The semiconductor light-emitting device according to Claim 159, wherein

a sealing resin for sealing at least a part of the base substance and the semiconductor light-emitting element is included; and

the sealing resin contains the fluorescent substance.

166 (New). The semiconductor light-emitting device according to Claim 160, wherein

a sealing resin for sealing at least a part of the base substance and the semiconductor light-emitting element is included; and

the sealing resin contains the fluorescent substance.

167 (New). The semiconductor light-emitting device according to Claim 161, wherein

Application No.: 09/957,472 7 Docket No.: 204552021500

a sealing resin for sealing at least a part of the base substance and the semiconductor light-emitting element is included; and

the sealing resin contains the fluorescent substance.

168 (New). The semiconductor light-emitting device according to Claim 163, wherein the base substance is a lead frame having a cup-shaped mount section;

the semiconductor light-emitting element is disposed at the bottom of the cup-shaped mount section of the lead frame and electrically connected to another lead frame by wire bonding; and

at least a part of the two lead frames and the semiconductor light-emitting element are sealed with the sealing resin.

169 (New). The semiconductor light-emitting device according to Claim 163, wherein the base substance is an insulator connected to ends of a pair of lead frames;

the semiconductor light-emitting element is connected to metallic wiring formed on the insulator; and

at least a part of the pair of lead frames, the insulator and the semiconductor lightemitting element are sealed with the sealing resin.

170 (New). The semiconductor light-emitting device according to Claim 157, wherein the base substance is a lead frame having a cup-shaped mount section;

the semiconductor light-emitting element is disposed at the bottom of the cup-shaped mount section of the lead frame and electrically connected to another lead frame by wire bonding;

the fluorescent substance is filled in the cup-shaped mount section; and at least a part of the two lead frames, the semiconductor light-emitting element and the fluorescent substance are sealed with a sealing resin.

171 (New). The semiconductor light-emitting device according to Claim 158, wherein the base substance is a lead frame having a cup-shaped mount section;

the semiconductor light-emitting element is disposed at the bottom of the cup-shaped mount section of the lead frame and electrically connected to another lead frame by wire bonding;

the fluorescent substance is filled in the cup-shaped mount section; and

at least a part of the two lead frames, the semiconductor light-emitting element and the fluorescent substance are sealed with a sealing resin.

172. (Currently amended) The semiconductor light-emitting device according to Claim 159, wherein

the base substance is a lead frame having a cup-shaped mount section;

the semiconductor light-emitting element is disposed at the bottom of the cup-shaped mount section of the lead frame and electrically connected to another lead frame by wire bonding;

the fluorescent substance is filled in the cup-shaped mount section; and

at least a part of the two lead frames, the semiconductor light-emitting element and the fluorescent substance are sealed with a sealing resin.

173 (New). The semiconductor light-emitting device according to Claim 160, wherein the base substance is a lead frame having a cup-shaped mount section;

the semiconductor light-emitting element is disposed at the bottom of the cup-shaped mount section of the lead frame and electrically connected to another lead frame by wire bonding;

9

the fluorescent substance is filled in the cup-shaped mount section; and

at least a part of the two lead frames, the semiconductor light-emitting element and the fluorescent substance are sealed with a sealing resin.

174 (New). The semiconductor light-emitting device according to Claim 161, wherein the base substance is a lead frame having a cup-shaped mount section;

the semiconductor light-emitting element is disposed at the bottom of the cup-shaped mount section of the lead frame and electrically connected to another lead frame by wire bonding;

the fluorescent substance is filled in the cup-shaped mount section; and

at least a part of the two lead frames, the semiconductor light-emitting element and the fluorescent substance are sealed with a sealing resin.

175 (New). The semiconductor light-emitting device according to Claim 157, wherein the base substance is a lead frame having a cup-shaped mount section;

the semiconductor light-emitting element is disposed at the bottom of the cup-shaped mount section of the lead frame and electrically connected to another lead frame by wire bonding;

a coating member is filled in the cup-shaped mount section and the fluorescent substance is disposed on the coating member; and

at least a part of the two lead frames, the semiconductor light-emitting element, the coating member and the fluorescent substance are sealed with a sealing resin.

Application No.: 09/957,472 10 Docket No.: 204552021500

176 (New). The semiconductor light-emitting device according to Claim 158, wherein the base substance is a lead frame having a cup-shaped mount section;

the semiconductor light-emitting element is disposed at the bottom of the cup-shaped mount section of the lead frame and electrically connected to another lead frame by wire bonding;

a coating member is filled in the cup-shaped mount section and the fluorescent substance is disposed on the coating member; and

at least a part of the two lead frames, the semiconductor light-emitting element, the coating member and the fluorescent substance are sealed with a sealing resin.

177 (New). The semiconductor light-emitting device according to Claim 159, wherein the base substance is a lead frame having a cup-shaped mount section;

the semiconductor light-emitting element is disposed at the bottom of the cup-shaped mount section of the lead frame and electrically connected to another lead frame by wire bonding;

a coating member is filled in the cup-shaped mount section and the fluorescent substance is disposed on the coating member; and

at least a part of the two lead frames, the semiconductor light-emitting element, the coating member and the fluorescent substance are sealed with a sealing resin.

178 (New). The semiconductor light-emitting device according to Claim 160, wherein the base substance is a lead frame having a cup-shaped mount section;

the semiconductor light-emitting element is disposed at the bottom of the cup-shaped mount section of the lead frame and electrically connected to another lead frame by wire bonding;

a coating member is filled in the cup-shaped mount section and the fluorescent substance is disposed on the coating member; and

at least a part of the two lead frames, the semiconductor light-emitting element, the coating member and the fluorescent substance are sealed with a sealing resin.

179 (New). The semiconductor light-emitting device according to Claim 161, wherein the base substance is a lead frame having a cup-shaped mount section;

the semiconductor light-emitting element is disposed at the bottom of the cup-shaped mount section of the lead frame and electrically connected to another lead frame by wire bonding;

a coating member is filled in the cup-shaped mount section and the fluorescent substance is disposed on the coating member; and

at least a part of the two lead frames, the semiconductor light-emitting element, the coating member and the fluorescent substance are sealed with a sealing resin.

180 (New). The semiconductor light-emitting device according to Claim 157, wherein the base substance is a substrate provided with metallic wiring;

the semiconductor light-emitting element is electrically connected the metallic wiring on the substrate;

a sealing resin for sealing the semiconductor light-emitting element is included; and the sealing resin contains the fluorescent substance.

181 (New). The semiconductor light-emitting device according to Claim 158, wherein the base substance is a substrate provided with metallic wiring;

the semiconductor light-emitting element is electrically connected the metallic wiring on the substrate;

a sealing resin for sealing the semiconductor light-emitting element is included; and the sealing resin contains the fluorescent substance.

182 (New). The semiconductor light-emitting device according to Claim 159, wherein the base substance is a substrate provided with metallic wiring;

the semiconductor light-emitting element is electrically connected the metallic wiring on the substrate;

a sealing resin for sealing the semiconductor light-emitting element is included; and the sealing resin contains the fluorescent substance.

183 (New). The semiconductor light-emitting device according to Claim 160, wherein the base substance is a substrate provided with metallic wiring;

the semiconductor light-emitting element is electrically connected the metallic wiring on the substrate;

a sealing resin for sealing the semiconductor light-emitting element is included; and the sealing resin contains the fluorescent substance.

184 (New). The semiconductor light-emitting device according to Claim 161, wherein the base substance is a substrate provided with metallic wiring;

the semiconductor light-emitting element is electrically connected the metallic wiring on the substrate;

a sealing resin for sealing the semiconductor light-emitting element is included; and the sealing resin contains the fluorescent substance.

185 (New). The semiconductor light-emitting device according to Claim 157, wherein the base substance is a substrate provided with metallic wiring;

the semiconductor light-emitting element is electrically connected to the metallic wiring on the substrate and disposed in a recessed portion; and

the fluorescent substance is filled in the recessed portion.

186 (New). The semiconductor light-emitting device according to Claim 158, wherein the base substance is a substrate provided with metallic wiring;

the semiconductor light-emitting element is electrically connected to the metallic wiring on the substrate and disposed in a recessed portion; and

the fluorescent substance is filled in the recessed portion.

187 (New). The semiconductor light-emitting device according to Claim 159, wherein the base substance is a substrate provided with metallic wiring;

the semiconductor light-emitting element is electrically connected to the metallic wiring on the substrate and disposed in a recessed portion; and

the fluorescent substance is filled in the recessed portion.

188 (New). The semiconductor light-emitting device according to Claim 160, wherein the base substance is a substrate provided with metallic wiring;

the semiconductor light-emitting element is electrically connected to the metallic wiring on the substrate and disposed in a recessed portion; and

14

the fluorescent substance is filled in the recessed portion.

189 (New). The semiconductor light-emitting device according to Claim 161, wherein the base substance is a substrate provided with metallic wiring;

the semiconductor light-emitting element is electrically connected to the metallic wiring on the substrate and disposed in a recessed portion; and

the fluorescent substance is filled in the recessed portion.

190 (New). The semiconductor light-emitting device according to Claim 185, wherein the recessed portion is formed by a frame disposed on the substrate.

191 (New). The semiconductor light-emitting device according to Claim 157, wherein the base substance is a substrate provided with metallic wiring;

the semiconductor light-emitting element is electrically connected to the metallic wiring on the substrate and disposed in a recessed portion;

a sealing resin is filled in the recessed portion; and the fluorescent substance is disposed on the sealing resin. 192 (New). The semiconductor light-emitting device according to Claim 158, wherein the base substance is a substrate provided with metallic wiring;

the semiconductor light-emitting element is electrically connected to the metallic wiring on the substrate and disposed in a recessed portion;

a sealing resin is filled in the recessed portion; and the fluorescent substance is disposed on the sealing resin.

193 (New). The semiconductor light-emitting device according to Claim 159, wherein the base substance is a substrate provided with metallic wiring;

the semiconductor light-emitting element is electrically connected to the metallic wiring on the substrate and disposed in a recessed portion;

a sealing resin is filled in the recessed portion; and the fluorescent substance is disposed on the sealing resin.

194 (New). The semiconductor light-emitting device according to Claim 160, wherein the base substance is a substrate provided with metallic wiring;

the semiconductor light-emitting element is electrically connected to the metallic wiring on the substrate and disposed in a recessed portion;

a sealing resin is filled in the recessed portion; and the fluorescent substance is disposed on the sealing resin. 195 (New). The semiconductor light-emitting device according to Claim 161, wherein the base substance is a substrate provided with metallic wiring;

the semiconductor light-emitting element is electrically connected to the metallic wiring on the substrate and disposed in a recessed portion;

a sealing resin is filled in the recessed portion; and the fluorescent substance is disposed on the sealing resin.

196 (New). The semiconductor light-emitting device according to Claim 157, wherein the base substance is a substrate provided with metallic wiring;

the semiconductor light-emitting element is electrically connected to the metallic wiring on the substrate;

a reflector for reflecting at least a part of outgoing light from the semiconductor light-emitting element is included;

a sealing resin for sealing the semiconductor light-emitting element and transmitting reflected light from the reflector is included; and

the fluorescent substance is contained in the sealing resin.

197 (New). The semiconductor light-emitting device according to Claim 158, wherein the base substance is a substrate provided with metallic wiring;

the semiconductor light-emitting element is electrically connected to the metallic wiring on the substrate;

a reflector for reflecting at least a part of outgoing light from the semiconductor light-emitting element is included;

a sealing resin for sealing the semiconductor light-emitting element and transmitting reflected light from the reflector is included; and

the fluorescent substance is contained in the sealing resin.

198 (New). The semiconductor light-emitting device according to Claim 159, wherein the base substance is a substrate provided with metallic wiring;

the semiconductor light-emitting element is electrically connected to the metallic wiring on the substrate;

a reflector for reflecting at least a part of outgoing light from the semiconductor light-emitting element is included;

a sealing resin for sealing the semiconductor light-emitting element and transmitting reflected light from the reflector is included; and

the fluorescent substance is contained in the sealing resin.

199 (New). The semiconductor light-emitting device according to Claim 160, wherein the base substance is a substrate provided with metallic wiring;

the semiconductor light-emitting element is electrically connected to the metallic wiring on the substrate;

a reflector for reflecting at least a part of outgoing light from the semiconductor light-emitting element is included;

Application No.: 09/957,472

a sealing resin for sealing the semiconductor light-emitting element and transmitting reflected light from the reflector is included; and

the fluorescent substance is contained in the sealing resin.

200 (New). The semiconductor light-emitting device according to Claim 161, wherein the base substance is a substrate provided with metallic wiring;

the semiconductor light-emitting element is electrically connected to the metallic wiring on the substrate;

a reflector for reflecting at least a part of outgoing light from the semiconductor light-emitting element is included;

a sealing resin for sealing the semiconductor light-emitting element and transmitting reflected light from the reflector is included; and

the fluorescent substance is contained in the sealing resin.

201 (New). The semiconductor light-emitting device according to Claim 157, wherein the base substance is a substrate provided with metallic wiring;

the semiconductor light-emitting element is electrically connected to the metallic wiring on the substrate;

a reflector for reflecting at least a part of outgoing light from the semiconductor light-emitting element is included;

a shielding body for shielding light directly emitted from the semiconductor lightemitting element to the outside of the semiconductor light-emitting device is included; a sealing resin for sealing the semiconductor light-emitting element and transmitting reflected light from the reflector is included; and

a layer of the fluorescent substance is formed on a surface of the reflector that reflects light.

202 (New). The semiconductor light-emitting device according to Claim 158, wherein the base substance is a substrate provided with metallic wiring;

the semiconductor light-emitting element is electrically connected to the metallic wiring on the substrate;

a reflector for reflecting at least a part of outgoing light from the semiconductor light-emitting element is included;

a shielding body for shielding light directly emitted from the semiconductor lightemitting element to the outside of the semiconductor light-emitting device is included;

a sealing resin for sealing the semiconductor light-emitting element and transmitting reflected light from the reflector is included; and

a layer of the fluorescent substance is formed on a surface of the reflector that reflects light.

203 (New). The semiconductor light-emitting device according to Claim 159, wherein the base substance is a substrate provided with metallic wiring;

the semiconductor light-emitting element is electrically connected to the metallic wiring on the substrate;

a reflector for reflecting at least a part of outgoing light from the semiconductor light-emitting element is included;

a shielding body for shielding light directly emitted from the semiconductor lightemitting element to the outside of the semiconductor light-emitting device is included;

a sealing resin for sealing the semiconductor light-emitting element and transmitting reflected light from the reflector is included; and

a layer of the fluorescent substance is formed on a surface of the reflector that reflects light.

204 (New). The semiconductor light-emitting device according to Claim 160, wherein the base substance is a substrate provided with metallic wiring;

the semiconductor light-emitting element is electrically connected to the metallic wiring on the substrate;

a reflector for reflecting at least a part of outgoing light from the semiconductor light-emitting element is included;

a shielding body for shielding light directly emitted from the semiconductor lightemitting element to the outside of the semiconductor light-emitting device is included;

a sealing resin for sealing the semiconductor light-emitting element and transmitting reflected light from the reflector is included; and

a layer of the fluorescent substance is formed on a surface of the reflector that reflects light.

205 (New). The semiconductor light-emitting device according to Claim 161, wherein

the base substance is a substrate provided with metallic wiring;

• the semiconductor light-emitting element is electrically connected to the metallic wiring on the substrate;

a reflector for reflecting at least a part of outgoing light from the semiconductor light-emitting element is included;

a shielding body for shielding light directly emitted from the semiconductor lightemitting element to the outside of the semiconductor light-emitting device is included;

a sealing resin for sealing the semiconductor light-emitting element and transmitting reflected light from the reflector is included; and

a layer of the fluorescent substance is formed on a surface of the reflector that reflects light.

206 (New). The semiconductor light-emitting device according to Claim 157, wherein the base substance is a substrate provided with metallic wiring;

the semiconductor light-emitting element is electrically connected to the metallic wiring on the substrate;

at least a light-emitting section of the semiconductor light-emitting element is disposed in a recessed portion in the substrate;

a reflector for reflecting at least a part of outgoing light from the semiconductor light-emitting element is included;

a sealing resin for sealing the semiconductor light-emitting element and transmitting reflected light from the reflector is included; and

a layer of the fluorescent substance is formed on a surface of the reflector that reflects light.

207 (New). The semiconductor light-emitting device according to Claim 158, wherein the base substance is a substrate provided with metallic wiring;

the semiconductor light-emitting element is electrically connected to the metallic wiring on the substrate;

at least a light-emitting section of the semiconductor light-emitting element is disposed in a recessed portion in the substrate;

a reflector for reflecting at least a part of outgoing light from the semiconductor light-emitting element is included;

a sealing resin for sealing the semiconductor light-emitting element and transmitting reflected light from the reflector is included; and

a layer of the fluorescent substance is formed on a surface of the reflector that reflects light.

208 (New). The semiconductor light-emitting device according to Claim 159, wherein the base substance is a substrate provided with metallic wiring;

the semiconductor light-emitting element is electrically connected to the metallic wiring on the substrate;

at least a light-emitting section of the semiconductor light-emitting element is disposed in a recessed portion in the substrate;

a reflector for reflecting at least a part of outgoing light from the semiconductor light-emitting element is included;

a sealing resin for sealing the semiconductor light-emitting element and transmitting reflected light from the reflector is included; and

a layer of the fluorescent substance is formed on a surface of the reflector that reflects light.

209 (New). The semiconductor light-emitting device according to Claim 160, wherein the base substance is a substrate provided with metallic wiring;

the semiconductor light-emitting element is electrically connected to the metallic wiring on the substrate;

at least a light-emitting section of the semiconductor light-emitting element is disposed in a recessed portion in the substrate;

a reflector for reflecting at least a part of outgoing light from the semiconductor light-emitting element is included;

a sealing resin for sealing the semiconductor light-emitting element and transmitting reflected light from the reflector is included; and

a layer of the fluorescent substance is formed on a surface of the reflector that reflects light.

210 (New). The semiconductor light-emitting device according to Claim 161, wherein the base substance is a substrate provided with metallic wiring;

the semiconductor light-emitting element is electrically connected to the metallic wiring on the substrate;

at least a light-emitting section of the semiconductor light-emitting element is disposed in a recessed portion in the substrate;

a reflector for reflecting at least a part of outgoing light from the semiconductor light-emitting element is included;

a sealing resin for sealing the semiconductor light-emitting element and transmitting reflected light from the reflector is included; and

a layer of the fluorescent substance is formed on a surface of the reflector that reflects light.

211 (New). The semiconductor light-emitting device according to Claim 157, wherein the base substance is a substrate provided with metallic wiring;

the semiconductor light-emitting element is electrically connected to the metallic wiring on the substrate;

a reflector for reflecting at least a part of outgoing light from the semiconductor light-emitting element is included;

a sealing resin for sealing the semiconductor light-emitting element and transmitting reflected light from the reflector is included; and

a layer of the fluorescent substance is formed on a surface of the sealing resin that reflects light.

212 (New). The semiconductor light-emitting device according to Claim 158, wherein

the base substance is a substrate provided with metallic wiring;

the semiconductor light-emitting element is electrically connected to the metallic wiring on the substrate;

a reflector for reflecting at least a part of outgoing light from the semiconductor light-emitting element is included;

a sealing resin for sealing the semiconductor light-emitting element and transmitting reflected light from the reflector is included; and

a layer of the fluorescent substance is formed on a surface of the sealing resin that reflects light.

213 (New). The semiconductor light-emitting device according to Claim 159, wherein the base substance is a substrate provided with metallic wiring;

the semiconductor light-emitting element is electrically connected to the metallic wiring on the substrate;

a reflector for reflecting at least a part of outgoing light from the semiconductor light-emitting element is included;

a sealing resin for sealing the semiconductor light-emitting element and transmitting reflected light from the reflector is included; and

a layer of the fluorescent substance is formed on a surface of the sealing resin that reflects light.

214 (New). The semiconductor light-emitting device according to Claim 160, wherein

the base substance is a substrate provided with metallic wiring;

the semiconductor light-emitting element is electrically connected to the metallic wiring on the substrate;

a reflector for reflecting at least a part of outgoing light from the semiconductor light-emitting element is included;

a sealing resin for sealing the semiconductor light-emitting element and transmitting reflected light from the reflector is included; and

a layer of the fluorescent substance is formed on a surface of the sealing resin that reflects light.

215 (New). The semiconductor light-emitting device according to Claim 161, wherein the base substance is a substrate provided with metallic wiring;

the semiconductor light-emitting element is electrically connected to the metallic wiring on the substrate;

a reflector for reflecting at least a part of outgoing light from the semiconductor light-emitting element is included;

a sealing resin for sealing the semiconductor light-emitting element and transmitting reflected light from the reflector is included; and

a layer of the fluorescent substance is formed on a surface of the sealing resin that reflects light.

216 (New). A semiconductor light-emitting device constituted by mounting a semiconductor light-emitting element on a base substance, wherein

Application No.: 09/957,472

27

Docket No.: 204552021500

the semiconductor light-emitting element has outgoing light having emission wavelengths of 390 to 420 nm;

a first fluorescent substance, a second fluorescent substance and a third fluorescent substance are included;

the first fluorescent substance has red outgoing light having emission wavelengths with its main emission peak in a wavelength range of 600 to 670 nm;

the second fluorescent substance has green outgoing light having emission wavelengths with its main emission peak in a wavelength range of 500 to 540 nm;

the third fluorescent substance has blue outgoing light having emission wavelengths with its main emission peak in a wavelength range of 410 to 480 nm; and

the sum of colors of light emitted from the first, second and third fluorescent substances is a white color, wherein

the first fluorescent substance is composed of any one or more selected from a fluorescent substance group consisting of:

M<sub>2</sub> O<sub>2</sub> S: Eu (M is any one or more elements selected from La, Gd and Y);

 $0.5MgF_2 \cdot 3.5MgO \cdot GeO_2 : Mn;$ 

 $Y_2 O_3 : Eu$ 

 $Y(P, V) O_4$ : Eu; and

YVO<sub>4</sub>: Eu;

the second fluorescent substance is composed of any one or more selected from a fluorescent substance group consisting of:

RMg<sub>2</sub> Al<sub>1 6</sub> O<sub>2 7</sub>: Eu, Mn (R is any one or both elements selected from Sr and Ba);

RMgAl<sub>10</sub> O<sub>17</sub>: Eu, Mn (R is any one or both elements selected from Sr and Ba);

ZnS: Cu;

 $SrAl_2 O_4 : Eu;$ 

SrAl<sub>2</sub> O<sub>4</sub>: Eu, Dy;

ZnO: Zn;

 $Zn_2 Ge_2 O_4 : Mn;$ 

Zn<sub>2</sub> SiO<sub>4</sub>: Mn; and

 $Q_3\,MgSi_2\,O_8: Eu,\,Mn\,(Q\,\,is\,\,any\,\,one\,\,or\,\,more\,\,elements\,\,selected\,\,from\,\,Sr,\,Ba\,\,and\,\,Ca);$  and

the third fluorescent substance is composed of any one or more selected from a fluorescent substance group consisting of:

 $A_{1\ 0}\ (PO_4\ )\ _6\ Cl_2: Eu\ (A\ is\ any\ one\ or\ more\ elements\ selected\ from\ Sr,\ Ca,\ Ba,\ Mg$  and Ce);

XMg<sub>2</sub> Al<sub>1 6</sub> O<sub>2 7</sub>: E (X is any one or both elements selected from Sr and Ba);

XMgAl<sub>10</sub> O<sub>17</sub>: Eu (X is any one or both elements selected from Sr and Ba);

ZnS: Ag;

Sr<sub>10</sub> (PO<sub>4</sub>) 6 Cl<sub>2</sub>: Eu;

 $Ca_{10}(PO_4)_6F_2:Sb;$ 

Z<sub>3</sub> MgSi<sub>2</sub> O<sub>8</sub>: Eu (Z is any one or more elements selected from Sr, Ca and Ba);

SrMgSi<sub>2</sub> O<sub>8</sub>: Eu;

Sr<sub>2</sub> P<sub>2</sub> O<sub>7</sub>: Eu;

CaAl<sub>2</sub> O<sub>4</sub>: Eu, Nd.

217 (New). The semiconductor light-emitting device according to Claim 216, wherein, assuming the total amount as 100 weight %,

the first fluorescent substance is between 50 weight % and 70 weight % inclusive; the second fluorescent substance is between 7 weight % and 20 weight % inclusive;

the third fluorescent substance is between 20 weight % and 30 weight % inclusive.

218 (New). The semiconductor light-emitting device according to Claim 217, wherein the sealing resin contains the first, second and third fluorescent substances; and

the proportion of the total weight of the first, second and third fluorescent substances to the weight of the sealing resin is between 0.5 and 1 inclusive.

219 (New). A light-emitting display device comprising;

a light source using the semiconductor light-emitting device according to Claim 216;

and

a light guiding plate for guiding light from the light source; and

30

red, green and blue color filters for transmitting light from the light guiding plate and dividing the light; the light-emitting display device, wherein

outgoing light from the semiconductor light-emitting device has a wavelength distribution that matches spectral characteristics of the color filters.

220 (New). The light-emitting display device according to Claim 219, wherein at least one of the following is adjusted so that the wavelength distribution of the outgoing light from the semiconductor light-emitting device matches spectral characteristics of the color filters:

the emission wavelength of the semiconductor light-emitting element;

the emission wavelength of the first fluorescent substance;

the emission wavelength of the second fluorescent substance;

the emission wavelength of the third fluorescent substance;

the mixture proportions of the first, second and third fluorescent substances; and the proportion of the total weight of the first, second and third fluorescent substances to the weight of the sealing resin.

- 221 (New). The light-emitting display device according to Claim 219, wherein the light-emitting display device is a liquid crystal display device.
- 222 (New). The light-emitting display device according to Claim 220, wherein the light-emitting display device is a liquid crystal display device.